CLAIMS

1. A tuned absorber (5A, 5B) for attachment to a railway rail (1), which absorber (5A, 5B) comprises a body (6) formed of elastomeric material and of at least one region of a first material which is denser than the said elastomeric material, which region is located within the said elastomeric material and forms an active mass ($7m_1$, $7m_2$, $7m_3$), wherein a member (8) of a second material denser than the said elastomeric material is also located within the said elastomeric material, adjacent to the said active mass ($7m_1$, $7m_2$, $7m_3$), which member (8) is coupled to the rail (1) when in use so as to provide a resonant surface against which the said active mass ($7m_1$, $7m_2$, $7m_3$) can vibrate.

2. An absorber as claimed in claim 1, wherein the said member (8) is semi-rigidly attached to the rail (1) when the absorber (5A, 5B) is in use.

3. An absorber as claimed in claim 2, wherein the member (8) has at least two holes therethrough for receiving attachment means whereby the member (8) may be attached to a rail (1) when the absorber (5A, 5B) is in use.

4. An absorber as claimed in any preceding claim, wherein the said member (8) comprises a beam.

5. An absorber as claimed in claim 4, wherein the said beam (8) is shaped so as to have a channel (8a) running therealong.

6. An absorber as claimed in claim 4, wherein the said beam (8) is shaped so as to have a hollow rectangular section.

7. An absorber as claimed in any preceding claim, wherein the first and second denser materials comprise the same material.

8. A tuned absorber (5A, 5B) for attachment to a railway rail (1), which absorber (5A, 5B) comprises a body (6) formed of elastomeric material and of a first active mass ($7m_1$) and at least one further active mass ($7m_2$, $7m_3$), which active masses ($7m_1$, $7m_2$, $7m_3$) are of a material which is denser than the said elastomeric material and are located within the said elastomeric material, wherein the first active mass ($7m_1$) and the or each further mass ($7m_2$, $7m_3$) are arranged so as to be effectively coupled for vibration in a first frequency range and such that the or each further active mass ($7m_2$, $7m_3$) is decoupled from the first active mass ($7m_1$) for vibration in a second frequency range higher than the first.

9. An absorber as claimed in claim 8, further comprising a member (8) of a material denser than the said elastomeric material located within the said elastomeric material adjacent to the or each further active mass ($7m_2$, $7m_3$), which member (8) is coupled to the rail (1) when the absorber (5A, 5B) is in use so as to provide a resonant surface against which the or each further active mass ($7m_2$, $7m_3$) can vibrate.

10. An absorber as claimed in any preceding claim, wherein the or each active mass ($17m_1$, $17m_2$, $17m_3$) comprises a multiplicity of unconnected pieces of said denser material.

11. An absorber as claimed in claim 10, wherein the said pieces of said multiplicity differ in size from one another.

12. An absorber as claimed in claim 10 or 11, wherein the said pieces of said multiplicity are surrounded by an elastomeric material, a viscous liquid or air.

13. An absorber as claimed in claim 10, 11 or 12, wherein the said pieces comprise spherical balls.

14. A tuned absorber assembly for a railway rail, which assembly comprises tuned absorbers (5A, 5B) as claimed in any preceding claim for respectively abutting each side of a web (1c) of the rail (1) and a resilient clip (30) for applying a securing force to maintain the absorbers (5A, 5B) in position on the rail web (1c), wherein each tuned absorber (5A, 5B) has means (10) for securing the clip (30) thereto.

15. A tuned absorber as claimed in claim 14, wherein the securing means comprise sockets (10) formed in respective faces of the tuned absorbers (5A, 5B) for receiving respective free ends (33a, 33b) of the clip (30).

16. A tuned absorber assembly as claimed in claim 15, wherein the centre line of all parts of the clip (30) lie substantially in the same plane except for the free ends thereof (33a, 33b), which free ends (33a, 33b) extend out

of the said plane in substantially mutually-opposite directions, and wherein the said sockets (10) are formed in end faces of the said tuned absorbers (5A, 5B).

17. A tuned absorber assembly as claimed in claim 15 or 16, wherein the said sockets (10) are formed as part of a channelled member (8) located within the said tuned absorber (5A, 5B).

18. A method of mounting a tuned absorber (5A, 5B), as claimed in any one of claims 1 to 13, on a web (1c) of a railway rail (1), which method comprises the steps of:

pinbrazing onto the rail web (1c) at least two studs (21) at preselected locations;

bringing the tuned absorber (5A, 5B) into abutment with the rail web (1c) such that the studs (21) extend into respective holes (9) formed through the tuned absorber (5A, 5B); and

applying a releasable fastening (24A, 24B) to each stud (21) so as to maintain the tuned absorber thereon in contact with the rail web (1c).

19. A method as claimed in claim 18, wherein the studs are threaded (21) and the said releasable fastening comprises a nut (24A, 24B).

20. A tuned absorber assembly for a railway rail comprising a tuned absorber (5A, 5B) for abutting a web (1c) of the rail (1) and attachment means for applying a securing force to maintain the absorber (5A, 5B) in position on the rail web (1c), the said attachment means comprising a spring steel strap (40) having a first portion (41) for location on the tuned absorber (5A, 5B), a second portion (42) for

attachment to a foot (1b) of the rail (1), and a flat third portion (43), joining the first and second portions (41, 42), for location under the rail foot (1b);

characterised in that the said second portion (42) of the strap (40) comprises an overcentre device which locates on the rail foot (1b) and is operable, when snapped into a closed position, to apply a compressive force to the tuned absorber (5A, 5B) through the first and third portions (41, 43) of the strap (40).

21. An assembly as claimed in 20, wherein the tuned absorber (5A, 5B) has a socket (11) for locating the said first portion (41) of the strap (40).